

Japan Fisheries Research and Education Agency (FRA)

Pacific oysters – Development of a natural seedling-collection technique
using solid gravel made from powdered oyster shells

- A natural seedling-collection technique was developed that enables easy harvesting of high-value added single-seed Japanese oyster seedlings by placing an aquaculture cage holding solid gravel made from powdered oyster shells in an intertidal zone.

Oyster production of many small and medium-sized Pacific oyster-production areas in Japan are supported by natural seedlings provided mainly by Miyagi and Hiroshima prefectures. However, there are concerns regarding price escalation or stable supply of seedlings associated with occurrence of a natural disaster or times of poor seedling harvest.

To support "local seedling harvesting" in which oyster-production areas can harvest seedlings, a technique was developed to easily harvest "single-seed" Pacific oyster seedlings. This technique involves placing "care shell", which is a commercial product made from powdered and processed oyster shells, in an aquaculture cage installed in an intertidal zone. The young shells of natural Pacific oysters then settle on the care shells. This technique does not require monitoring of the planktonic larvae or the emerging state of the young shells needed for regular natural seedling collection. This technique can be easily used at small and medium-sized production areas. It is expected that this technique will contribute to the stabilization of seedling securement.

A single seed that can be obtained with this technique is ideal for producing half-shelled oysters to be eaten raw, a high-value added component, and can increase profitability for the Pacific oyster-aquaculture industry in small and medium-sized production areas.

Details of these results will be presented at the annual meeting of the Japanese Society for Aquaculture Science at Mie University on November 3, 2016.

* Note: This technique was developed by the following projects and in cooperation with the institutions listed below.

- "Development of Japanese Oyster Farming System Leveraging Local Seedling Harvesting using a New Technique" (Agriculture, forestry and fisheries industry/Food industry Scientific and Technological Research Promotion Project).
- Mie Fisheries Research Laboratory
- Toba Isobe Fisheries Cooperative
- Uramura Japanese Littleneck Research Group
- Care Shell Co., Ltd.



Care-shell solids made of processed oyster shells are placed in aquaculture net that has been installed in intertidal zone. Oysters will later attach to care shell.



Oysters attached to solids can be filtered and selected. Unattached solids can be used again in next seedling collection.